

In the Claims:

Please amend claims 1 and 3-6, cancel claim 7, and add new claims 8-17 as indicated.

1. (Currently amended) A medical decision support system, comprising:
a processor;
a memory device;
a[[n]] first input device for acquiring gene expression data, said first input device operably connected
to associated with a first classifier/predictor module to classify said gene expression data and
a[[n]] second input device for acquiring clinical information, said second input device operably
connected to associated with a second classifier/predictor module to classify said clinical information; and
said memory device having software to combine said classified gene expression data and said
classified clinical information to produce a prognosis of an outcome of a disease or its treatment a program
available to said processor comprising a combination algorithm.
2. (Original) The system of claim 1, further comprising an output device.
3. (Currently amended) A method for evaluating support a medical decision ~~on a computer system~~,
comprising the steps of:
 - (a) ~~classifying genetic expression information~~ using a first classifier/predictor module to classify
~~provide classified~~ gene expression information;
 - (b) ~~classifying clinical information using into~~ a second classifier/predictor module to classify
~~provide classified~~ clinical information; and
 - (c) combining said classified ~~genetic~~ expression information and said classified clinical
information [[in]] to produce a prognosis of an outcome of a disease or its treatment ~~a predicted outcome~~.
4. (Currently amended) The method of claim 3, wherein said steps (a) and (b) include at least one of
an evolving fuzzy neural network (EFuNN) process and a Bayesian process.
5. (Currently amended) A computer system ~~to support a medical decision~~, comprising:
a processor; and

a memory device having classified gene expression information and classified clinical information stored thereon, said memory device having software to combine said classified gene expression information and said classified clinical information to produce a prognosis of an outcome of a disease or its treatment.

6. (Currently amended) The computer system of claim 5, further comprising software to [[a]] predict[[ed]] an outcome based on combined classified gene expression information and clinical information stored on said memory device.

7. (Canceled)

8. (New) A system for predicting a medical outcome, comprising:
a first input device to receive gene expression data;
a second input device to receive clinical information;
a class unit layer comprising at least two classes of interest into which items of said gene expression data and items of said clinical information are sorted;
a classifier module layer comprising at least two classifier modules, a gene expression data classifier module operably connected to said first input device and operably connected to each of said at least two classes, and a clinical information classifier module operably connected to said second input device and operably connected to each of said at least two classes; and
a decision layer operably connected to each of said two classes and operably connected to an output device.

9. (New) The system of claim 8, wherein said decision layer comprises software to combine results from at least two of an EFuNN process, a Bayesian process, a neural network module, a support vector machine, a rule-based system, a decision tree and a statistical method.

10. (New) The system of claim 8, wherein output of said output device comprises at least one of a diagnosis, an evaluation of a clinical condition and an evaluation of a patient outcome.

11. (New) The system of claim 8, wherein at least one of said classifier module layer and said decision layer comprise at least one of an evolving connectionist system (ECoS) and an evolving classification function (ECF).

12. (New) The system of claim 11, wherein said decision layer further comprises an EFuNN.
13. (New) A method for predicting a medical outcome, comprising:
receiving gene expression data input into a first input device;
receiving clinical information input into a second input device;
providing a class unit layer comprising at least two classes of interest into which items of said gene expression data and items of said clinical information are sorted;
providing a classifier module layer comprising at least two classifier modules, a gene expression data classifier module operably connected to said first input device and operably connected to each of said at least two classes, and a clinical information classifier module operably connected to said second input device and operably connected to each of said at least two classes;
providing a decision layer operably connected to each of said two classes and operably connected to an output device; and
processing input from said at least two classes in said decision layer to produce a prediction of a medical outcome.
14. (New) The system of claim 13, wherein said step of providing a decision layer comprises providing software to combine at least two of an EFuNN process, a Bayesian process, a neural network module, a support vector machine, a rule-based system, a decision tree and a statistical method.
15. (New) The system of claim 13, wherein output of said output device comprises at least one of a diagnosis, an evaluation of a clinical condition and an evaluation of a patient outcome.
16. (New) The system of claim 13, wherein at least one of said classifier module layer and said decision layer comprise at least one of an ECoS and an ECF.
17. (New) The system of claim 16, wherein said decision layer further comprises an evolving fuzzy neural network EFuNN.